DOCUMENT RESUME

ED 176 210 CS 004 925

TITLE	Improving Reading Comprehension through the Content Approach. ESEA Title IV-C. Project Termination Report.
INSTITUTION	Cincinnati Public Schools, Ohio.
PUB DATE	31 Oct 78
NOTE	63p.
EDRS PRICE	MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	Autoinstructional Programs; *Content Reading; *Inservice Teacher Education; Needs Assessment; Program Content; *Reading Comprehension; *Reading Improvement; *Reading Instruction; Reading Skills; Secondary Education; Teaching Techniques

ABSTRACT

This report presents a description of a two-year district-wide project that was undertaken to develop a self-instructional teacher inservice training program focusing on techniques for teaching reading comprehension skills in English, science, mathematics, and the social studies at the secondary level. The various sections of the report contain a needs assessment, a statement of the project goals, a description of the project, a detailed discussion of the project outcomes, project dissemination information, conclusions and recommendations drawn from the project, and a discussion of the project phase-in in the district's schools. Appendixes contain copies of rating scales used in the project, a form for use in evaluation of teacher-written materials, a lesson framework checklist, a time allotment sheet, a classroom observation record, a trainer's report form, and evaluation report, and related correspondence. (FL)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

MAY 2 2 1979

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

- ED176210

PROJECT TERMINATION REPORT

IMPROVING READING COMPREHENSION THROUGH THE CONTENT APPROACH

ESEA TITLE IV-C

Cincinnati Public Schools
230 East Ninth Street
Cincinnati, Ohio 45202

October 31, 1978

"PERMISSION TO REPRODUCE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY

Cincinnati Public Schools

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

CS004725

TABLE OF CONTENTS

Narrative

	Page
A. Summary	1
B. Needs Assessment	4
C. Project Goals	7
D. Program Description	8
E. Project Outcomes	11
F. Dissemination	30
G. Conclusions/Recommendations	32
H. Project Phase-In	33

Appendices

A. SUMMARY
"IMPROVING READING COMPREHENSION THROUGH THE CONTENT APPROACH"
ESEA TITLE IV-C

The need for improved reading instruction at the secondary level in the Cincinnati School District was shown to be district-wide, increasing critical, and accumulative as students moved through their junior and senior high school years. The desired learner status for the project was an increased ability of secondary students to read content area textbooks independently. The inservice training program for secondary teachers of English, mathematics, social studies, and science was designed to improve student reading skills by providing secondary teachers with the skills necessary to help make their students independent readers.

The purpose of this project was to develop a self-instructional teacher inservice training program focused on techniques for teaching reading comprehension skills in the content areas of English, mathematics, science, and social studies. The specific goals of the project were:

1. Project staff and teachers would develop an inservice program for training teachers in the content reading approach to English, mathematics, science, and social studies.

2. Teachers would show an increased use of content reading instructional activities aimed at developing student reading comprehension skills in the content areas.

3. Students would show improved performance in the reading comprehension skills assessed as needing improvement.

Content reading is a teaching approach that focuses on the process of learning as well as the content to be learned. When implemented in content classrooms it aids students in discerning the meaning of assigned reading materials by causing them to employ reading-thinking strategies appropriate to the ideas being learned. During the two year project, a self-instructional inservice training package on teaching reading-thinking skills in the four major content areas was developed for secondary teachers. The learning process teachers go through to complete the inservice training is the same learning process they are being trained to implement with students.

Each inservice training package contains:

A Training Manual - A 300 page book in a 3-ring binder, divided into seven packets, each dealing with a different aspect of content reading, each organized into a reading selection and a self-assessment to check the teacher's understanding of the packet.

A Trainer's Guide for assisting one teacher in leading others through the inservice training.

Model Instructional Materials written, pilot-tested, revised, and field-tested by project teachers and packaged in spiral-bound booklets for each of the four major subject areas.

Self-instructional media, specifically two sound-slide shows and a set of color transparencies for use with an overhead projector supplement the print portion of the package.

This inservice training material was written and pilot-tested with six teachers (four public, two parochial) during the first year of the project, 1976-77. After revisions, the package was field-tested with 16 teachers and again revised before the final version was produced in the summer of 1978.

Project outcomes can be summarized by teacher outcomes and student outcomes. Teacher Outcomes - In this report (Section E), objectives for the project's first and second years are combined and the results, whenever possible, are reported cumulatively. Objectives 1 through 7 were all concerned with the development of project inservice training materials, their actual use with project teachers, and the teachers' ability to translate their training into content reading materials written for and used with students. All seven of these objectives were met.

Objective 8 concerned the evaluation of all the project materials. This evaluation involved second year project teachers, the project review panel, and an external consultant, Dr. Peter Sanders of Wayne State University. The objective was met and a copy of Dr. Sanders formal report is attached. (Appendix I) Student Outcomes - Objectives 9, 10, 11, 12 and 13 involved the project students. Data collected for Objective 9 showed that students in both years of the project has improved attitudes toward reading. Student performance objectives (10-13) were either met or project students showed substantial progress toward meeting the objective. Student performance on teacher-written tests, criterion-referenced tests (C.I.M.S.), and standardized achievement tests (Metropolitan and Comprehensive Test of Basic Skills) all showed gains. Particularly noteworthy was the improvement senior high school project students showed on the Comprehensive Test of Basic Skills.

Dissemination efforts were, in the opinion of the project director, diverse and successful. During the two year project period, over 50 presentations on the project took place in the Cincinnati area. Through the efforts of project staff members and teachers, with the support of Community Communications Council members, presentations were made to graduate and undergraduate university classes, junior and senior high school departments and total faculties, educational organization meetings and workshops, and other groups.

The conclusions and recommendations of the project staff can be summarized as follows:

1. Teachers involved in the project showed:
   a. improved attitudes toward the teaching of reading-thinking skills in content area classrooms;
   b. mastery of content reading techniques;
   c. class on implementation of content reading ideas and materials

2. Project students showed:
   a. improved attitudes toward reading;
   b. improved performance on teacher-written tests;
   c. improved scores on criterion-referenced tests and
   d. improved scores on standardized achievement tests

The recommendations resulting from the project evaluation can be summarized as follows:

1. Content reading inservice should be conducted by an experienced trainer, for a group of teachers, preferably the total staff of a secondary school.

2. If necessary, content reading inservice training can be accomplished by independent study of the project materials. Thus, the materials are versatile.

3. Content reading training of teachers results in improved reading performance by students. The greatest gains in reading scores are achieved by groups of students who have two or more teachers using content reading materials and methodology.

The phase-in of project ideas and materials is consistent with expectations when the project began. During the week before the opening of the 1978-79 school year, teachers in three junior high schools were trained in the content reading approach, using the materials developed in the project. These programs are financed through the General Fund. Another Title IV-C project, started in August, 1978 will extend the ideas and techniques of the training materials to teachers in grades 4, 5, and 6.

B. NEEDS ASSESSMENT

The need for improved reading instruction at the secondary level was quite evident in Cincinnati as in most large urban school systems. The data presented in this section show that this was a district-wide need in Cincinnati, that the need had become increasingly critical, and that the effects of poor reading accumulate as students move through junior and senior high school.

Cincinnati uses the Metropolitan Achievement Tests (MAT) as the basic measure of student achievement in the schools. Until 1975, the MAT was administered regularly in the fall of the year to grades 3, 6, and 8. In April, 1975, Cincinnati began a spring testing program at grades 1-8. In the April, 1975, testing, students at the seventh grade level achieved a median grade score on the MAT of 5.7; eighth grade students achieved a median score of 6.6. These compare with national grade norms of 7.7 and 8.7 respectively, and show that Cincinnati students are, overall, about two years behind national averages in reading.

Longitudinal data are available in the form of all MAT scores, for eighth graders only, from 1970-1974.

Table 1. Reading Median Grade Scores 1970-74

Year	Number Tested	Reading Median
1970	5548	6.1
1971	5367	6.3
1972	5031	5.7
1973	4641	6.1
1974	4971	5.7

National Norm = 8.2

The data in Table 2 show that students in Cincinnati have fluctuated anywhere from two to two and a half years below the national average in reading achievement. Generally, reading scores have steadily declined.

Item analysis of the Cincinnati results in the April, 1975 MAT testing show significant deficiencies in all tested areas of reading. Table 2 summarizes results for eighth grade students on the subtest items of the MAT.

Table 2. Median Percentage Correct on MAT Subtest Items

Subtest	Median Percentage Correct	
Item Content	Cincinnati	National
General information	54%	70%
Social Studies	48	65
Humanities	51	65
Science and Math	54	65
Main Thought	50	60
Inferential	51	65
Literal Reading	52	65
Context Reading	51	65

The results in Table 2 show that Cincinnati eighth grade students were below average in both word knowledge and reading comprehension skills. They also illustrate the relationship between deficient content reading comprehension skills and general reading ability.

Since achievement tests are not given at the senior high school level, the best available measure of reading achievement at the end of secondary school was the results of the ACT test taken by college applicants from Cincinnati in the fall of the school year. Table 3 summarizes these results.

Table 3. ACT Standard Scores 1970, 1971 and 1974

Test	National	Cincinnati	
	1970	1971	1974
English	18.5	15.5	15.6
Mathematics	20.0	17.7	15.5
Social Studies	19.7	16.3	14.5
Science	20.8	18.1	17.7
Composite	19.9	17.1	16.0

The results in Table 3 show that ACT scores of Cincinnati students declined between 1971 and 1974, except in English, and were lower than the national average in 1970 to begin with. The achievement of non-college bound students in Cincinnati in content reading could be assumed to be no better.

Textual materials in all subject areas present many new reading problems to the junior high pupil, especially since so many of them are not written to help the pupil extract information quickly. Junior and senior high school teachers had not been trained to analyze the reading difficulties presented by these texts, nor had they been trained in techniques to help students read materials in their subject area.

The desired learner status was the ability of students to read content area texts independently. Cincinnati secondary students showed a declining ability to comprehend content in the various subject areas and deficient reading skills generally. The program described in the initial proposal for this project was designed to improve student reading skills by providing all secondary teachers with the skills necessary to make their pupils independent readers. With this technique, it was hoped that Cincinnati students could again approach the typical student nationally in their reading ability.

C. PROJECT GOALS

The purpose of this project was to develop a self-instructional teacher inservice program focused on techniques for teaching reading comprehension skills in the content areas of English, mathematics, science, and social studies.

Specifically, the goals of the project were:

1. Project staff and teachers developed an inservice program that can train teachers in the content reading approach to English, mathematics, science, and social studies.

2. Teachers showed an increased use of content reading instructional activities aimed at developing student reading comprehension skills in the content areas.

3. Students showed improved performance in the reading comprehension skills assessed as needing improvement.

D. PROGRAM DESCRIPTION

In the original Formal Proposal for the ESEA Title IV-C project "Improving Reading Comprehension Through The Content Approach," two closely related need areas were identified for reading instruction at the secondary level. First, secondary students were shown to have deficient content reading comprehension skills and general reading ability. Second, junior and senior high school teachers of English, mathematics, science, and social studies have not been trained to analyze and deal with the reading difficulties their students have with content area textbooks.

Content reading is a teaching approach that focuses on the process of learning as well as the content to be learned. When implemented in content classrooms, it aids students in discerning the meaning of assigned reading materials by causing them to employ reading-thinking strategies appropriate to the ideas in question.

The first year of the project was devoted to the development of a self-instructional inservice training package on teaching reading-thinking skills in the content areas of English, mathematics, science, and social studies at the secondary level. The content of the training package focuses upon strategies for combining the teaching of subject matter concepts with the teaching of reading comprehension skills. The learning process teachers go through to complete the inservice training package is the same learning process they are being taught to implement in their classrooms with students.

Each inservice training package contains:

1. A Training Manual detailing a step-by-step method for use by teachers to learn content reading methodology through self-instruction. This manual can be used by one teacher, or a small or large group of teachers working together. The manual is divided into seven packets: Packet 1 - An Introduction to Content Reading, Packet 2 - Content Analysis, Packet 3 - Process Analysis, Packet 4 - Writing Study Guides, Packet 5 - Vocabulary Development, Packet 6 - Small Group Discussion, Packet 7 - Evaluation. Each packet consists of an instructional text and a self-assessment test designed to provide feedback for teachers using the manual on how well they are mastering/implementing each aspect of the content reading approach. The Training Manual is a 300 page book in a three-ring binder.

2. A Trainer's Guide designed to help a teacher who has had the inservice guide other teachers through the training manual, if the inservice is conducted for a group. This trainer's guide provides name tags and other organization aids, as well as detailed instructions for the coordinated use of all the inservice materials. The Trainer's Guide is a spiral-bound booklet.

3. Self-instructional media accompanying the print portion of the training materials include two sound-slide presentations and a set of color transparencies. One sound-slide show introduces the inservice program and the other focuses on small group discussion in the content classroom. The transparencies are for use with the Training Manual and their use is explained in detail in the Trainer's Guide.

4. Model instructional materials (e.g. model study guides, instructional frameworks, and tests) in English, mathematics, social studies, and science, together with instructions for constructing study guides in the particular subject area and implementing them within an instructional framework. These model materials were developed, pilot-tested, revised and field-tested by project teachers. They are packaged in four separate spiral-bound booklets.

During the first year of the project, items 1, 2, and 3 were developed by the project staff and pilot-tested by the six original project teachers. This group of teachers then developed the pilot version of 4, above.

During the second year of the project, the complete training package was field-tested with a larger group of teachers (16), evaluated by a review panel of Cincinnati Public School secondary supervisors and an external consultant, revised, and put into a final version ready for general dissemination.

Before the 1977-78 school year began, the 16 field-test teachers were trained in the content reading approach, using the 30 hour inservice package produced during the first year of the project. The four public school teachers involved in the project's first year served as trainers for 12 of the 16 new field-test teachers. The four remaining new field-test teachers completed the 30-hour inservice training independently. This provided tests of the training package under varying conditions - a) use by a group of teachers with another classroom teacher acting as trainer and b) use by individual teachers working independently.

All twenty-two teachers involved in the project (4 pilot-test public school teachers, 2 pilot-test parochial teachers, 14 field-test public school teachers and 2 field-test parochial teachers) then carried out the content reading approach with their students, using instructional and testing materials they produced as a result of their training. The field-test period lasted the entire 1977-7 school year.

In the summer of 1978, the project staff produced a final version of the inservice package, based on feedback from the experiences of project teachers as well as other evaluation measures. These measures included the self-assessments built into the Training Manual, pre and post tests of teacher attitudes toward combining the teaching of reading skills with the teaching of subject matter concepts, instructional and assessment materials developed by project teachers, classroom observation forms, and forms showing instructional time devoted to the content reading approach.

The content reading approach to the original need was chosen because most reading instruction at the secondary level has taken place in reading skills classes, while the reading problems of students persist in their content area classes. Content teachers have not been trained to recognize and deal with the reading problems students have in their subject areas. The inservice training package created during this two year project is an effort to meet this need.

Through the entire project period, the project director was M. Lynne Smith. During the first year of the project, E. Jane Mueller was the project evaluator. The evaluator for the project's second year was Mary Rueve. Graphics co-op students assigned to the project worked on the design and subsequent revisions of all project materials. Their work was supervised and augmented by Robert Ohr, head of the media-graphics lab. Norine Smith was the project secretary during the second half of the first and the entire second year. A total of twenty-two Cincinnati public and parochial teachers participated in the project

Budget Analysis

Financial support for the ESEA Title IV-C project, Improving Reading Comprehension Through The Content Approach" was as follows:

	1976-77	$ 49,239.88
	1977-78	80,500.00
Total federal support under ESEA Title IV-C		$129,739.88
Total federal support other than ESEA Title IV-C		... ..
Total non-federal support		5,000.00
Total project cost		$134,739.88

E. PROJECT OUTCOMES

The Project Outcomes are discussed in terms of the extent to which a) teachers achieved performance objectives, b) teachers and project staff achieved facilitative objectives, and c) students achieved performance objectives. Objectives for the first and second year are combined and results reported cumulatively whenever possible although all data analysis and evaluation for the first year was the responsibility of Dr. E. Jane Mueller and the second year was the responsibility of Dr. Mary H. Rueve.

Note: The four public school teachers who were in the project during the first project year, the pilot year, and continued to be in the project the second year, are referred to in the discussion of project outcomes as the "second-year teachers." Those teachers new to the project during the second project year are referred to as the "first-year teachers."

TEACHER PERFORMANCE OBJECTIVES

Objective 1:

During the first year, the project staff will develop a pilot-test version of a 30-hour inservice package in the content reading approach and the project review panel will state criteria for evaluating the package and submit an evaluation based on the criteria.

Findings:

The project staff did develop a pilot-test version of an inservice training package in the content reading approach which consisted of seven packets, one in each of the following areas:

1. Introduction to content reading
2. Content analysis
3. Process analysis
4. Writing study guides
5. Vocabulary development
6. Small group discussions
7. Evaluation in content reading

The project review panel, a group of five Cincinnati Public School supervisors, prepared a rating scale for evaluating the inservice package. Criteria for reviewing the packets were: content of text, graphic support, and format. (See Appendix A.) Ratings were on a scale of 5, with 1 low and 5 high. With respect to content of text, there were 11 major criteria. Content of text was rated on: a) consistency with content approach, b) coverage of approach, c) balance between application and theory, d) integration with audio-visual materials, e) style, f) content reading application, g) appropriateness of illustrative materials, h) inclusion of study guides, i) continuity, j) clarity of directions, and finally k) self assessment materials that indicate degree of mastery of packets.

The panel submitted packet by packet ratings of the inservice training materials. Comments were included. Further, numerous conferences were held between the coordinator and the panel to clarify and strengthen the training materials. On the initial review of all packets, most of the ratings were 4 or 5, indicating above average ratings. On criteria where the rating was 3 or lower, revision was made to improve the materials. The panel reviewed and re-rated each packet as needed until all were satisfactory on all applicable criteria.

Conclusions:

Overall, the panel agreed that the inservice training package was very good. This objective was during the first project year.

Objective 2:

Project teachers will produce teacher materials, development guides, and model instructional materials in four subject areas. These materials will be evaluated by the project review panel during the first year, revised, based on the review panel's recommendations, and evaluated again during the second year project teachers at the end of the inservice training. The materials will be evaluated using a questionnaire developed by the project staff.

Findings:

During the first year the review panel submitted written evaluations of the materials. The panel's suggestions were incorporated into the revisions of the materials which were then submitted to the project teachers at the end of the second year inservice for evaluation using the questionnaire developed by the staff, "Evaluation of Teacher-Written Materials."

In general, the sixteen field-test project teachers in the three subject areas responded favorably to the items on the questionnaire evaluating the usefulness of the teacher materials, development guides, and model instructional materials. Appendix B is the questionnaire, Evaluation of Teacher-Written Materials. The questionnaire was divided into two sections: Section I is concerned with writing study guides and Section II is concerned with sample teacher-written materials.

Section I of Evaluation, "Writing Study Guides":

All sixteen teachers responded positively to the first three items indicating that "Writing Study Guides" a) was useful in writing their own study guides, b) contained ideas consistent with those presented in the Training Manual, and c) used an attractive format with adequate graphics.

The coverage of all aspects of Content Reading (Content Analysis, Process Analysis, Vocabulary, Writing a Study Guide, and When to Use a Study Guide) were rated unanimously by the teachers as "very well covered" or "adequately covered" with one exception. Writing a Mathematics Study Guide was rated by one teacher as "insufficiently covered," and When To Use A Study Guide, again for mathematics, was rated as "insufficiently covered" by two teachers. Table 1 shows the number of teachers giving each rating to each topic covered in Writing a Study Guide.

TABLE 1. NUMBER OF TEACHERS GIVING EACH RATING TO EACH TOPIC IN WRITING A STUDY GUIDE

Very Well Covered	Adequately Covered	Insufficiently Covered	Not Covered	
13	3	0	0	Content Analysis
14	2	0	0	Process Analysis
14	2	0	0	Vocabulary
14	1	1	0	Actually Writing a Study Guide
12	2	2	0	When to Use a Study Guide

As shown on Table 2, teachers felt that the material was a valuable part of the inservice and appropriate for both junior and senior high teachers.

TABLE 2. NUMBER OF TEACHERS CHECKING EACH ITEM AS APPLYING TO WRITING A STUDY GUIDE

16	appropriate for junior high teachers
15	appropriate for senior high teachers
13	clearly written
0	too detailed
3	insufficiently detailed
16	a valuable part of the inservice package

Section II, Sample Teacher-Written Materials:

On items one through three the teachers indicated that a) the sample materials were useful to them in writing their own Study Guides, b) the sample materials were consistent with the ideas presented in the Training Manual (with two exceptions in mathematics), and c) that the layout and graphics were good but more illustrations were requested for mathematics. Teachers were very positive in their ratings on the value and quality of the sample materials as shown on Table 3.

TABLE 3. NUMBER OF TEACHERS CHECKING EACH ITEM AS APPLYING TO SAMPLE MATERIALS

14	clearly written
16	appropriate for junior high teachers
15	appropriate for senior high teachers
14	varied in subject
16	varied in length and format
14	varied in topic
15	of possible use with your students
16	a valuable part of the inservice package

Teachers also regarded the lesson frameworks (the overall lesson plans, as opposed to an isolated study guide) as clear and easy to follow.

Conclusions:

In summary, the sixteen field-test teachers rated the article "Writing a Study Guide," the sample teacher-written materials, and the lesson frameworks as being of high quality and extremely useful and appropriate to junior and senior high subject area teachers. The mathematics components were critized and rated much lower. Mathematics materials were rewritten incorporating the teachers' suggestions. A few other modifications were made to the other materials based on teachers' suggestions.

Objective 3:

Project teachers will receive 30 hours of inservice training in the content reading approach conducted by the project director. During the second year, four of the sixteen project teachers will use self-instructional materials as the 30-hour inservice training. The materials used for inservice will be those developed and revised during the first year. The inservice will be considered successful if each teacher achieves 90% proficiency on each of the seven self-assessment packets which are part of the inservice materials.

Findings:

The 30-hour inservice training was held at the beginning of both project years. The effectiveness of the training was measured by self-assessment packets matched to each of the training materials modules. The exercises and test items in the self-assessments measure literal knowledge of content, interpretation and application of knowledge to different situations. The exercises are models of the concepts developed in the inservice training packet titled "Evaluation."

The self-assessment packets were collected and analyzed by the project evaluators. Both years every teacher in each training mode (group inservice and self-instructional inservice during the second year) achieved at least 90% mastery on each of the self assessments. Table 4 shows the results for the second year.

TABLE 4. MEAN PERCENT OF ITEMS CORRECT ON EACH SELF-ASSESSMENT PACKET: GROUP INSERVICE AND SELF-INSTRUCTIONAL INSERVICE, SECOND YEAR

	SELF-ASSESSMENT PACKET						
	1	2	3	4	5	6	7
Group Inservice	94.17	95.25	96.25	95.5	95	95	95.83
Self-Instructional Inservice	100	98.75	97.75	96	98.75	95	99.50

Conclusions:

It can be concluded that the inservice was successful.. A brief examination of the means shown on the preceding table indicates that there is no meaningful difference between the scores of the teachers receiving the two types of inservice. Therefore, the self-instructional materials are as adequate a training mode as the traditional group inservice.

Objective 4:

Teachers' attitude toward the content reading approach will improve as a result of participation in the project. During the first project year, teachers attitude will be measured using an instrument developed by the external evaluator, Dr. Peter Sanders, and administered pre and post training. During the second year teachers' attitude toward content reading will be measured using the Vaughan Content Teacher Attitude Scale as a pretest in August before the inservice training and as a posttest in June. Convergent and concurrent validity of the Vaughan Scale will be reported. Appendices C and D are the Sanders scale and the Vaughan Scale respectively.

Findings:

Before and after the first year inservice, the scale developed by the project evaluator to measure teacher attitude toward the content reading approach was administered. The biggest shift in teacher attitude between the pre and posttests was increased agreement that content teachers should be responsible for teaching reading. The second biggest shift in attitude was the content teachers should teach reading irrespective of students' previous reading instruction. These shifts were equal to one point on a five-point scale. Overall, the attitudes of all teachers became more positive toward the roles and functions of the content reading teacher.

The Vaughan Scale used during the second year is a seven-point scale with one low and seven high and containing fifteen items. The purpose of the scale is to measure teachers' understanding and acceptance of their roles as content reading teachers. To score the Vaughan Scale all negative items were reversed, then mean item scores were computed for each teacher.

The mean posttest score for the total group was 6.16 exceeding the objective criteria which was a posttest score of 6.0. Average pre-post gain was .79. This gain was less than the proposed gain of 1.5. However, with a mean pretest score as high as 5.37 on a scale of 7, it would be difficult to reach an average gain of 1.5. Pretest scores were higher than would be expected in a normal faculty possibly due to self-selection; the project teachers asked for their involvement, indicating a positive attitude toward content reading. Table 5 shows the mean pretest, posttest, and gain scores for the new project teachers and the second year project teachers. The number of teachers who made a gain of .1 or more is also shown.

TABLE 5. MEAN SCORES AND GAIN SCORES ON VAUGHAN CONTENT TEACHER ATTITUDE SCALE, SECOND YEAR AND NEW PROJECT TEACHERS

	Mean Pretest Score	Mean Posttest Score	Mean Gain Score	Gain Greater Than .1
Second Year Project Teachers	6.28	6.58	.30	3 out of 4
New Project Teachers	5.14	6.05	.91	16 out of 16
Total Group - (New & Second Year Teachers)	5.37	6.16	.79	19 out of 20

The Vaughan Scale:

In a correspondence with the project evaluator, Dr. Joseph Vaughan indicated that convergent validity of his scale had been established and enclosed pre-publication copy of a paper which discusses both convergent and construct validity of the scale. Dr. Vaughan took exception to the request for concurrent validity information, "If concurrent validity had been possible by comparing my scale to one designed by someone else, there would have been no need for my scale." Appendix N is Dr. Vaughan's letter. Nonetheless, following the project plan a Pearson-Product Moment correlation was computed between the Vaughan scale and the Sanders scale. Scores on both scales were available for thirteen of the project teachers. The correlation between the two scales was .50 which approaches significance at the .05 level. (For an N of 13, a correlation of .553 or greater is necessary for significance at the .05 level.)

Conclusions:

Teachers' attitudes toward teaching content reading improved and was extremely positive at the end of the project year. The Vaughan Content Teacher Attitude Scale was shown to be an appropriate measure for the project.

Objective 5:

During the second year both second-year and first-year project teachers will produce a minimum of five complete content-reading based lesson plans. Quality of the lesson plans will be judged by the project director.

Findings:

All project teachers developed five or more content reading lesson plans all of which included the specified study guides, vocabulary work, provisions for small group discussion and evaluation instruments. The project director evaluated the lesson plans using the Lesson Framework Checklist developed by the project staff. (See Appendix E.) All lesson frameworks contained the following required components although in some frameworks two components were combined:

a) motivating activity,
b) review and background,
c) purpose setting,
d) vocabulary,
e) study guide,
f) small group activity, and
g) evaluation activity.

The criteria for the study guides were that they: a) introduce essential vocabulary words; b) contain exercises in literal, interpretive, and applied comprehension; c) contain a variety of paper-pencil exercises; d) require students to use a textbook to locate or verify answers; and e) lead students to understand major concepts.

Conclusions:

All teachers produced quality lesson frameworks which followed the guidelines and major concepts in the content reading approach and contained all the recommended components.

Teacher Facilitative Objectives

Objective 6:

Project teachers will implement the content reading approach during the third and fourth quarters the first project year and during the entire school year the second project year. For both years successful implementation was set at a minimum of 75% of the instructional time being devoted to the content approach.

Findings:

Two methods of determining whether teachers were using the content approach during 75% of their instructional time were employed: first, teacners submitted time allotment reports (weekly the first year, monthly the second) on a form designed by the first-year evaluator (Appendix F); and second, project staff visited classrooms and used an observation scale.

During both the first and second year, all teachers reported spending 75% or more of their time using the content reading approach. To validate the teachers' self-reports, each teacher was observed on three to six different occasions during which teacher and student behaviors were coded on the Classroom Observation Record, an instrument designed during the first year to measure the extent to which the content approach was being used. (See Appendix G.) Types of behaviors noted were: teacher instructional roles, student roles, student activities, classroom activities, and kinds of grouping. Listed under each type of behavior were content approach roles and activities. The observers checked off all roles or activities which occurred during the class period. Since often many activities and student behaviors were occurring simultaneously but for different lengths of time, the recording of minutes was omitted.

Based on the analysis of the roles, activities and comments on the Classroom Observation Record, the project staff agreed that every teacher was implementing the content reading approach more than 75% of the time. Tables 6 and 7 respectively show the percent of visits during which each category of teacher instructional roles and classroom activities and student activities and roles were observed.

TABLE 6. PERCENT OF VISITS DURING WHICH EACH TEACHER ROLE AND CLASSROOM ACTIVITY WERE RECORDED, SECOND YEAR

Teacher Role	%	Classroom Activities	%
Lecturer	24	Review and Background	30
Questioner	73	Purpose Setting	25
Discussion Leader	30	Vocabulary Work	35
Discussion Participant	41	Study Guide	57
Tutor	37	Small Group Discussion	29
Facilitator	17	Summarizing Activity	11
		Independently Chosen Activity	13
		Evaluation Activity	37
		Other	22

As shown on Table 6, the roles of Questioner, Discussion Participant, and Tutor were most often observed while the role of Lecturer was least often observed.

Table 6 also shows that a variety of content reading type activities were observed and that the Study Guide was being used during 57% of the visits.

TABLE 7. PERCENT OF VISITS DURING WHICH EACH STUDENT ROLE AND ACTIVITY WERE OBSERVED

Student Role	%	Student Activity	%
Listener	81	Listening	83
Questioner	81	Speaking	67
Discussion Leader	32	Writing	90
Discussion Participant	65	Reading	78
Tutor	22	Other	46
Facilitator	5		
Motivator	5		
Other	33		

The variety of roles and activities observed in student behavior is impressive. Students in the role of Questioner during 81% of the observations and Discussion Participant during 65% of the observations show the students were active rather than passive. This is also supported in the Student Activity observations.

Conclusions:

Both the Classroom Observation Records and the teachers self-reports show the content reading approach was being successfully implemented during more than 75% of the time in all classes.

Objective 7:

The second year project teachers will act as trainers for the first year teachers during the second year inservice using the materials developed and revised for the inservice during the previous year, that is, the Trainer's Guide and instructional media, and will submit written reports on the effectiveness of these materials.

Findings:

The second-year project teachers did act as trainers in the inservice using the designated materials. The reports submitted by the trainers which evaluated the material packet by packet indicated that the Trainer's Guide was easy to follow and "a pleasure to use." The transparencies and slide show were described as "extremely well done," "enhancements to the training," and "adding to the professional flavor of the training." Appendix H is the report form. Suggestions on changing of wording, amplification of statements or directions, etc., were noted by the project director and incorporated into the revisions.

Conclusions:

The inservice was held by the second year project teachers using the prescribed materials. After actual experience using the training materials, the second year teachers rated the materials as being of excellent quality, and easy to use.

Objective 8:

Final versions of all materials (Training Manual, Training Guide, self-instructional media, teacher materials development guides, and model instructional materials) will be evaluated by the appropriate groups: second-year teachers, project review panel and an external consultant who will use criteria developed during the first year and submit a written report.

Findings:

Before final printing all materials were once more reviewed by the appropriate parties including the external consultant, Dr. Peter Sanders, who had been submitting informal reviews as needed during the year.

In his formal report, introductory remarks, Dr. Sanders wrote, "the in-service materials for improved reading comprehension through the content approach...are a sound and professional accomplishment, pragmatic in approach, yet reflecting current authoritative opinion. An initially impressive program has over the past year become an outstanding one. The materials continue to be noteworthy for their graphics, their packaging, and their tone."

Dr. Sanders' evaluation of each specific component is contained in Appendix I. Editing notes are omitted.

In general the members of the review panel gave the materials extremely complimentary ratings. The mathematics reviewer edited the mathematics sections and submitted corrections which were used to rewrite the materials. Wherever feasible and appropriate, the other suggestions were used in the final editing.

Conclusions:

The project materials were reviewed and rated most favorably. A final editing considered and implemented reviewers' suggestions.

Objective 9:

Students will show an increasingly positive attitude toward reading in general and the content reading approach. During the first project year the instrument developed by the external consultant, the Student Attitude Scale, will be piloted with a sample of students and during the second year all students will be surveyed. Gains to be achieved during the first year were not specified. The second year goal was for 75% of the students to show at least a .5 gain and a minimum 4.0 posttest score on the five-point scale.

Findings:

The Student Attitude Scale (Appendix J) was developed and administered at the beginning of the third quarter and the end of the fourth quarter during the first project year. The Student Attitude Scale is a five-point Likert-type scale with a response of five as high or positive and a response of one as low or negative. Scale scores were obtained by reversing negative items and computing an average item score. Table 8 shows pretest, posttest and gain scores for the first project year.

TABLE 8. AVERAGE SCORES AND GAIN SCORES ON SANDERS' STUDENT ATTITUDE SCALE BY SCHOOL, PRE AND POST TREATMENT, FIRST YEAR

School	Score		Gain Score
	Pre Treatment	Post Treatment	
Porter	3.40	4.20	.80
All Saints	3.60	3.93	.33
Withrow	3.60	4.00	.40
Marian	3.53	4.00	.53
			.47

The student item responses during the first year were used to check reliability of the Student Attitude Scale. Item-to-total correlations were computed. Correlations ranged from .12 for item 8 to .57 for item 9. Item-to-total correlations were considered to be adequate since fourteen of the fifteen correlations were significant at the .05 level. (A correlation of .19 or greater for an N of 100 is significant at the .05 level.) The item-to-total correlations are shown on Table 9.

TABLE 9. CORRELATION (+) BETWEEN ITEM AND TOTAL SCORE ON SANDERS' STUDENT ATTITUDE SCALE

Item	r	Item	r	Item	r
1	.51	6	.36	11	.23
2	.52	7	.50	12	.48
3	.44	8	.12	13	.49
4	.52	9	.57	14	.48
5	.29	10	.40	15	.37

(+) Product moment correlation

Student attitude was again measured during the second project year using the same instrument, Sanders' Student Attitude Scale. The pretest was administered in September and the posttest in May. The mean posttest score for the total group was 3.965, approaching the goal of a posttest score of 4.0. Three of the schools - Marian, Campbell, and Withrow - achieved a posttest score of 4.0 or greater.

For the total group, the mean pretest score was 3.580 and mean gain was .385. (It should be noted that it is notoriously difficult to obtain pre-posttest gains on instruments measuring student attitude when the posttest is administered toward the end of the school year, particularly with older students.) Table 10 shows second year scores.

TABLE 10. AVERAGE SCORES AND GAIN SCORES ON SANDERS' STUDENT ATTITUDE SCALE BY SCHOOL, SECOND YEAR

School	Mean Pretest	N	Mean Posttest	Mean Gain
Marian	3.67	43	4.314	.644
Campbell	3.51	92	4.058	.548
Withrow	3.89	403	4.067	.177
All Saints	. ..	176	3.858	
Porter	3.59	66	3.781	.191
Schwab	3.65	273	3.842	.192
Total Group	3.58		3.965	.385

Conclusions:

During both project years, the students' attitude toward reading improved which is noteworthy since at the beginning of the project the students' attitude was already positive.

STUDENT PERFORMANCE OBJECTIVES

Objective 10:

Project students will demonstrate proficiency on content reading assessment tests developed and administered by project teachers. (This was an objective only during the first year.)

Findings:

Proficiency was defined as eighty percent of the students achieving eighty percent mastery on a test. Over eighty percent of the students in English, language-arts and mathematics and one-half the students in science achieved proficiency on the assessment tests.

Conclusion:

Substantial progress was made toward the objective.

Objective 11:

Students will show an increase in reading scores as measured by the Cincinnati Curriculum Inventory. The criteria for the first year was for 80% of the students to gain one level in two quarters of the school year. The criteria was modified for the second year to 75% of the students gaining one level.

Findings:

The measurement instrument, The Cincinnati Curriculum Inventory, is the placement test used in the Cincinnati Instructional Management System (CIMS), an outgrowth of a Title IV-C project and now a Statewide Adaptation project. Scores on this test are reported as levels and are based upon the number of consecutive levels on which the student answers 80% of the items correctly.

During the first year, with a single exception, tests were administered in the third and fourth quarters, particularly pre-tested the first week in February and post-tested the last week in May. Science students at Porter High School were pre-tested in September. Porter students were given the Reading Inventory, a lower level inventory for the junior high school students.

In general, the expected gain on the Inventories is one level in one year. Level gain on the Inventories was interpreted in the following manner: one-half in two quarters or one level in a full year is equivalent to 80% proficiency. One-half level was the expected gain (criterion) for all students except the science students at Porter Junior High. The science students at Porter Junior High who were pre-tested in the fall have an expected gain, to meet the criterion, of one level.

Results of pre and post treatment testing are shown in two tables. In the first table (11) is reporting the scores of students having both pre and post treatment scores. In the second table (Table 12) is two distributions. One distribution is the pretest scores for the mathematics students, the other distribution is the posttest scores. The students in the mathematics laboratory were reluctant to put their names on their tests so it was not possible to pair the pre and post scores as was done in Table 11. At least 75 percent of the English, social studies and language arts made a gain of one-half level between testing. Also, the science students at Porter made the desired gain. Only science students at All Saints School failed to make the desired gain. This may well be due to administration of too low a level of placement tests. The students had very little room to show growth on the lower level test. While it is not possible to say with certainty that 75 percent of the mathematics students made the desired gain, since the pre and posttests could not be matched, inspection of the distributions of pre and post treatment scores strongly suggest a good growth pattern.

TABLE 11. GAINS[a] ON CRITERION REFERENCED TESTS BY SUBJECT

	Number of Cases[b]	Pretest Date	At Least 75% Made Desired Gain[b]
Science	127	Fall/1977	+
Science (All Saints)	134	Feb/1977	-
English	14	Feb/1977	+
Social Studies	45	Feb/1977	+
Language Arts	60	Feb/1977	+

a) One level for classes pretested in fall, one-half level for classes pretested in February.
b) Cases with pre and posttest scores; cases with pretest only excluded, cases with posttest only excluded.

TABLE 12. DISTRIBUTION OF PRE AND POSTTEST SCORES ON CRITERION REFERENCED TESTS FOR MATHEMATICS STUDENTS, ALL CASES

Test Level	Percent Pre	Post
6.0	12%	0%
6.5	33	5
7.0	32	17
7.5	19	13
8.0	3	30
8.5	1	35

NB Pretest cases 77; Posttest cases 54

During the second project year four of the schools administered the Cincinnati Reading Curriculum Inventory as a pre and posttest. Table 13 shows the percent of students at each school making a gain of one or more levels on the Curriculum Inventory.

TABLE 13. GAINS ON CRITERION REFERENCED TEST BY SCHOOL, SECOND YEAR

School	% of Students Gaining One Level or More	N
Withrow	70.61	224
Marian	81.48	58
All Saints	33.82	67
Porter	84.70	129

As can be seen from Table 13, students at Marian and Porter reached the goal of having 75% of students gaining one or more levels on the posttest, and the students at Withrow came close with 71% of the students gaining one or more levels. As in the first year, All Saints School did not show much increase in scores. Also as in the first year these students probably could have been given a higher level Curriculum Inventory.

At two of the schools, Campbell and Schwab, the project students were enrolled in the Cincinnati Instructional Management Systems (CIMS) from which the Reading Curriculum Inventories were taken. Over 75% of these students made a gain of one level in the CIMS inventories but did not take the Reading Curriculum inventories at the end of the year. This was probably due to a misunderstanding. These schools may have been following the CIMS guidelines and suggestions for achievement evaluation used in many of the Cincinnati schools and also in the CIMS Statewide Adaptation Schools. According to these guidelines, achievement is measured by the regular monthly administered inventories rather than by a pre-posttest administration of the Curriculum Inventories.

Conclusion:

During both years students made substantial progress toward gaining the required levels on the Reading Curriculum Inventories.

Objective 12:

Seventh and eighth grade students will show gains in reading as measured by the Metropolitan Achievement Test (MAT), Reading, which is administered by Cincinnati Public Schools as part of the systemwide testing program. During the first project year the goal was for the students to show a five percent increase in median percentage correct. For the second year the goal was for 75 percent of the students to obtain a higher percentile rank on the MAT.

Findings:

The evaluation of student achievement for this project has been beset with difficulties and misunderstandings due to the annual systemwide standardized testing being cancelled for the spring of 1977. The decision to cancel the testing was in part the result of disruption of school due to snow and a lengthy teacher strike during the spring. During the first project year MAT scores were collected and analyzed for the pretest. No posttest data was available due to the cancellation of the systemwide testing.

The second year project plan was to use the MAT scores from a planned systemwide testing in September of 1977 (to replace the May 1977 testing). The project staff was unaware of a change in testing plans and the MAT pretest was not administered. The exception was Porter Junior High.

The Metropolitan Achievement Test was administered in September 1977 and in April 1978 to the seventh grade students and in April 1977 and April 1978 to the eighth grade students at Porter. Table 14 shows the average percentile ranks on the subtests of the MAT, Word Knowledge and Comprehension, as well as Total Reading. The seventh grade students made gains in average percentile ranks on both subtests. The seventh graders Total Reading percentile rank in September was 10 and in May was 16 for an average gain of 6 percentile ranks. No gain was seen for the eighth graders.

TABLE 14. SUMMARY OF METROPOLITAN ACHIEVEMENT DATA, SEVENTH AND EIGHTH GRADE STUDENTS, SECOND YEAR

Grade	Test	Date of Test	Percentile Rank of Mean Score	Change in Percentile Rank	N
7	Word Knowledge	9/77	9		164
		5/77	16	+7	
	Comprehension	9/77	11		
		5/77	14	+3	161
	Total Reading	9/77	10		
		5/77	16	+6	161
*8	Word Knowledge	9/76	12		
		9/77	14	+2	73
	Comprehension	9/76	16		
		9/77	15	-1	72
	Total Reading	9/76	14		
		9/77	14		70

*Includes only students who met minimum attendance requirement of the Cincinnati Public Schools

Conclusions:

The seventh graders made substantial gain in percentile ranks. This gain was not seen for eighth graders.

Objective 13:

Project students in the ninth through twelfth grades will increase their percentile bank on the Comprehensive Tests of Basic Skills (CTB), (Level 4), Reading. During the second project year, 75% of the students will score at higher percentile rank on the May posttest than on the September pretest.

Findings:

The original intent was to measure this objective during the first project year. The CTBS was to be administered as part of Withrow High School's school-wide testing program. Unfortunately, due in part to student absence as a result of extremely cold weather and a prolonged teacher strike, and due in part to other problems, a school administrative decision was made to omit the May 1977 testing.

During the second project year the CTBS was administered in September of 1977 as a pretest and in May of 1978 as a posttest. Total Reading scores were used to make the pre- posttest comparisons. Students were first divided into percentile groups on the basis of the pretest scores. Each percentile group had a range of ten points, i.e., 1 to 10, 11 to 20... In almost every percentile group, the gains were extremely large, ranging from a low gain of 3.33 to a high gain of 34.14. (The project evaluator was concerned with the size of gains and thought there might be an error in either the data or the data analysis. All data and programs were checked and no errors were found. Answer sheets were re-scored, pre- and posttests together, and the same results were found.)

TABLE 15. AVERAGE GAIN IN PERCENTILE RANK ON CTBS, TOTAL READING FOR ALL WITHROW AND MARIAN STUDENTS, SECOND YEAR

Pretest Percentile	All Students N	All Students Average Gain	Withrow Students N	Withrow Students Average Gain	Marian Students N	Marian Students Average Gain
1-10	28	+ 34	28			
11-20	27	+ 15	27			
21-30	39	+ 20	39			
31-40	36	+ 7	36			
41-50	40	+ 15	36	+ 16	4	+ 10
51-60	44	+ 17	41	+ 16	3	+ 26
61-70	82	+ 10	52	+ 8	30	+ 14
71-80	68	+ 3	37	+ 2	31	+ 5
81-90	7	+ 8	3	+ 7	4	+ 9

Conclusions:

Objective was more than accomplished at both Withrow and Marian. In every percentile group gains were greater than one and were particularly large up through the 61-70 percentile group.

F. DISSEMINATION

Several kinds of dissemination efforts took place during the two year life of the project. These included: (1) a leaflet or brochure produced at the beginning of each project year and distributed throughout the year; (2) regular meetings of the Community Communications Council and the efforts of individual council members; (3) print publicity in the local publications Each Child and R&D Briefings; (4) short (30-50 min.) presentations to school faculties, departments, etc.; (5) long (1-3 hour) presentations to University graduate school classes and school faculties and (6) workshops, displays, etc., sponsored by schools and/or educational groups.

By far the most economical and pervasive form of advertising was the leaflet or brochure. Produced in quantity, this form of project information could be mailed inexpensively. In addition, the leaflet nicely augmented personal presentations, giving interested listeners a name, address, and telephone number for obtaining further information about the project activities and materials. The brochure was also a convenient way for project teachers to let other teachers know more about the project.

Articles about the project in the two local publications mentioned were an excellent means of advertising. Principals and curriculum leaders in many schools first learned about the project through these articles.

Short presentations to subject-area departments in public and parochial schools in the Cincinnati area were also an effective means of letting many people know about project activities and materials. Several teachers who first became aware of the project during these presentations in 1976-77 became project teachers for the 1977-78 school year.

The project director felt that the most successful type of activity for project dissemination was the long (1-3 hour) presentation to either a graduate education class or a school faculty. This length presentation provided sufficient time for participants to become involved in a project activity. Response to these samples of inservice training format and activities was consistently excellent.

The least satisfactory form of dissemination was the display. Such presentations were usually part of a very large effort, such as The Cincinnati School Foundation's Education Fair. Project materials can be effectively displayed at such events, but the audience is far too diverse for a teacher inservice program.

During the two-year project period, over 50 presentations on the project took place in the Cincinnati area. Audiences for these presentations included:

(1) graduate education classes at the University of Cincinnati, Xavier University, and Northern Kentucky State University; (2) educational organizations, including the local chapter of The International Reading Association, the local Right to Read Committee, Hamilton and Clermont County Special Education teachers, the Chi Chapter of Delta Kappa Gamma, the Crest Hills Teacher Corps Project, the midwestern regional conference of Phi Delta Kappa sorority, and the South West Ohio Council of Teachers of English and Language Arts; (3) School faculties, including: Campbell, Crest Hills, and Merry Junior High Schools, Hughes, Princeton, and Marian High Schools, and first year teachers of English, mathematics, and science in the Cincinnati Public Schools.

The project's Community Communication Council members were of great assistance in project dissemination. They spent a great deal of time reading and commenting on project materials and visiting the classrooms of project teachers. They distributed project brochures to members of their respective organizations and provided many contacts for organizations and institutions interested in presentations on the project.

G. CONCLUSIONS/RECOMMENDATIONS

As stated in the needs assessment conducted prior to the project, junior and senior high school content teachers have not been trained to analyze the reading difficulties presented by their assigned textbooks, nor have they been trained in techniques to help students read materials in their subject areas. The results of the project evaluation show that secondary teachers can be trained to deal effectively with these problems. Teachers involved in the project showed improved attitudes toward the teaching of reading-thinking skills in content area classrooms. They also showed mastery of content reading techniques, 1) through self-assessments that were a part of the training materials; 2) by writing materials of good quality for use with their students, and 3) by actually implementing content-reading techniques and materials in a large portion of classroom time, as shown by their own time reports and by the visits of the project staff.

The inservice training materials developed during this project proved very successful in teaching teachers the methodology of content reading. It is interesting to note that project teachers who completed the training materials independently did as well or better on self-assessment tests as those teachers trained as a group, with the assistance of an experienced trainer. The project staff is pleased with these results, but strongly recommends that the thirty hour inservice program be conducted for a group whenever possible. This is because only through the give and take of small group interaction do teachers get a feel for and experience in the techniques they're being trained to utilize with students.

Results of the project evaluation on objectives dealing with students showed improved scores in attitudes toward reading, improved performance on teacher-written assessment tests in the content areas, improved scores on criterion referenced tests, and improved performance on the standardized achievement tests discussed in the original needs assessment conducted for the project. Especially noteworthy was the performance of senior high school project students on the Comprehensive Test of Basic Skills. Students in all percentile groups showed extremely large increases in total reading scores at both the public and the parochial high school involved in the project. The project staff feels that these scores are at least partially attributable to students having more than one teacher involved in the project. At the public senior high school, for example, some students had two and even three teachers involved in the project. Thus, these students were receiving help with reading-thinking skills all through the school day. The performance of the senior high school students lends support to the project staff's belief that a content reading program is most effective when implemented by a total school staff.

H. PROJECT PHASE-IN

Part 1. Continuation Efforts

The major program objective for the ESEA Title IV-C project "Improving Reading Comprehension Through The Content Approach" was the development of a 30-hour inservice training package in content reading for secondary teachers of English, mathematics, social studies, and science. This inservice training package was developed, pilot-tested, revised, field-tested, and again revised. The final version of the training package was produced in the summer of 1978. As stated in the original project proposal, a full set of the inservice training materials was given to each Cincinnati Public junior and senior high school.

The Board of Education of the Cincinnati Public Schools extended the junior high comprehensive reading program to three additional junior high schools for the 1978-79 school year. Each of these schools used the materials developed during the project for teacher inservice training during August, 1978.

In addition, project materials were produced and paid for by the Urban Education Pilot Project for the training of 36 teachers working at Hughes High School and feeder elementary and junior high school teachers in the Hughes attendance area. During the spring of 1978, the faculty of Crest Hills Junior High School also participated in the 30-hour inservice training program. The expenses of this inservice workshop were paid by the Crest Hills Teacher Corps project.

It is hoped that a thorough evaluation of the existing content reading programs at the junior high level will show the value of extending content reading training to every junior high school staff. This expansion will be paid for with money from the General Fund.

The costs involved in initiating a content reading program for a junior high school include: $9.00 per hour for the teacher conducting the inservice training; $7.90 per hour for each teacher participating in the inservice; and the cost of the print training materials. The materials are made available to each school at the cost of production, so that as quantities increase, the cost for each school decreases. Currently, these costs are approximately $24.00 per teacher.

The new ESEA Title IV-C project "Improving Reading Comprehension Through The Content Approach - Grades 4-6" is a direct result of the success of the secondary project. This project is a joint effort of the Departments of Research and Development and Curriculum and Instruction of the Cincinnati Public Schools. The inservice materials produced during this new project will be designed to be compatible with the secondary materials so that a middle school or a school having both intermediate and secondary grades (as several alternative schools) can utilize both sets of inservice training materials in simultaneous inservice workshops.

Teachers and administrators in vocational education are also interested in the project materials and are currently investigating the costs involved in adapting the inservice training for use with vocational teachers.

Part 2. Phases To Be Discontinued

No major objectives and activities will be discontinued. All aspects of the project relating to the inservice teacher training package will be continued. The project materials to be produced and circulated for use in teacher training include: Training Manuals, a Trainer's Guide, teacher-written Model Materials (in four separate booklets), two sound-slide presentations, and a set of color transparencies.

Part 3. Equipment Inventory

No equipment costing $300.00 or more per unit was purchased during the project period with Title IV-C funds. Less expensive equipment purchased included a bookcase, a file cabinet, and a slide-storage cabinet. This equipment is currently being used by a new ESEA Title IV-C project, "Improving Reading Comprehension Through The Content Approach - Grades 4-6."

Part 4. Equipment Not Required For Phase-In

As stated in Number 3, above, no equipment costing $300.00 or more per unit was purchased during the project period with Title IV-C funds. Therefore, there can be no disposition of such equipment.

TABLE OF APPENDICES

Appendix A - Criteria for Printed Training Materials

Appendix B - Evaluation of Teacher-Written Materials

Appendix C - Sanders Attitude Scale

Appendix D - Vaughan Content Teacher Attitude Scale

Appendix E - Lesson Framework Checklist

Appendix F - Time Allotment Sheet

Appendix G - Classroom Observation Record

Appendix H - Trainer's Report Form

Appendix I - Dr. Peter Sander's Evaluation Report

Appendix J - Sander's Student Attitude Scale

Appendix N - Dr. Vaughan's letter to Dr. Rueve

APPENDIX A

CRITERIA FOR PRINTED TRAINING MATERIALS

Scale: 5 - High
1 - Low

1. Content of text	Date				
a. is consistant with content approach					
b. provides thorough coverage of this aspect of content reading					
c. provides a balance between practical application and theory					
d. is integrated with audio-visual materials					
e. is presented in a style that is					
1) informal					
2) free of educational jargon					
3) readable					
4) clear					
f. is a model of content reading application					
1) acts as motivation					
2) sets the purpose					
3) reviews the background					
4) relates to previously studied material					
5) includes essential vocabulary					
6) provides practice of process					
7) guides the reading					
8) guides the reaction					
g. provides illustrative material from					
1) the major subject areas					
2) junior and senior high materials					
3) texts generally used in Ohio					

h. provides study guides

1) based upon the major subject areas

2) based upon junior and senior high materials

3) based upon texts generally used in Ohio

4) that illustrate a variety of formats

i. has continuity

1) within each packet

2) from packet to packet

j. contains clear directions

k. contains self-assessment materials that indicate degree of mastery of instructional packets

2. Graphic support

a. has teacher appeal

b. reinforces attitudes reflected in materials

c. serves an instructional function

d. has professional appearance

3. Format provides

a. balance between print and graphics

b. cross-referencing to audio-visual and example materials

c. divisions into manageable in-service sessions

d. easy manipulation of materials

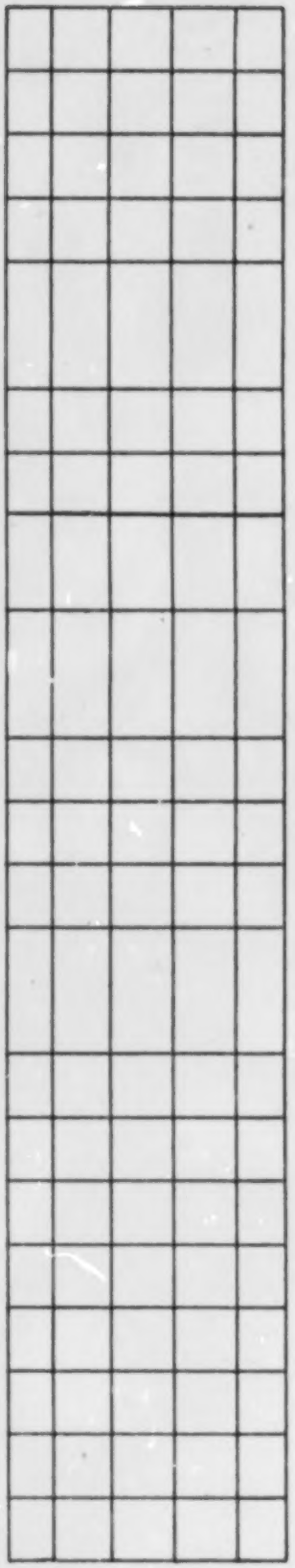
e. help in promoting group interaction

f. eye appeal (sufficient white space and balanced layout)

g. reading motivation

h. a variety of type styles

i. a variety of graphic aids to reading



APPENDIX B

Name _____

Subject Area _____

EVALUATION OF TEACHER-WRITTEN MATERIALS

The teacher-written materials were a supplementary resource during your initial thirty hour inservice in content reading. During the current school year, this material will be revised and expanded. This evaluation sheet will help us know where extensive revision is needed.

The evaluation, like the teacher-written materials, is divided into two sections:

(1) The article about the preparation of study guides

(2) Sample study guides and complete lesson frameworks

SECTION I. The Article on Writing Study Guides in Your Subject Area

1. Overall, is this article useful to you in writing your own study guides?

_____

_____

_____

2. Are the ideas in the article consistent with the ideas presented in the Training Manual?

_____

_____

_____

3. Comments on the layout and graphics of the article:

_____

_____

_____

_____

_____

4. The following aspects of content reading should have been covered in the article. Please indicate your satisfaction with each aspect by checking the appropriate column.

Very Well Covered	Adequately Covered	Insufficiently Covered	Not Covered	
_____	_____	_____	_____	Content Analysis
_____	_____	_____	_____	Process Analysis
_____	_____	_____	_____	Vocabulary
_____	_____	_____	_____	Actually Writing a Study Guide
_____	_____	_____	_____	When to Use a Study Guide

5. Please check (✓) the items that you feel apply to the article.

The article is:

_____ appropriate for junior high teachers

_____ appropriate for senior high teachers

_____ clearly written

_____ too detailed

_____ insufficiently detailed

_____ a valuable part of the inservice package

6. Any additional comments:

_____

_____

_____

_____

SECTION II. Sample Teacher-Written Materials

1. Overall, are the sample materials useful to you in writing your own study guides?

2. Are the sample materials consistent with the ideas presented in the Training Manual?

3. Comments on the layout and graphics of the sample materials.

4. Please check (✓) the items that you feel apply to the sample materials.

The sample materials are:

_____ clearly written
_____ appropriate for junior high teachers
_____ appropriate for senior high teachers
_____ varied in subject
_____ varied in length and format
_____ varied in topic
_____ of possible use with your students
_____ a valuable part of the inservice package

5. Regarding lesson frameworks (overall lesson plans as opposed to an isolated study guide). Please check the statements that apply:

_____ Lesson frameworks were included in my subject area materials

_____ The lesson frameworks were clear - easy to follow

_____ There were no lesson frameworks in my subject area

_____ There were insufficient lesson frameworks in my subject area

6. Any additional comments (for example, should the revised version contain more materials, materials using other books, etc.?):

APPENDIX C

IMPROVING READING COMPREHENSION THROUGH THE CONTENT APPROACH

Identifying Number _____

ATTITUDE SCALE

Directions: The following statements relate to reading instruction. Please indicate your feeling toward each by rating it on a scale from A to E, as follows:

A means "I strongly agree"
B means "I agree"
C means "I am undecided"
D means "I disagree"
E means "I strongly disagree"

Please answer all items so as to reflect your true attitude. Your first reaction is probably the best.

	A	B	C	D	E
1. The teaching of reading in the secondary school is the responsibility of reading specialists primarily.					
2. Students should be given specific purposes for the reading assignments in their subject areas.					
3. Students with marked reading disability should be taught primarily through non print media.					
4. If reading were more adequately taught in the elementary school, there would be little need for secondary school teachers of subject matter to be concerned about reading.					
5. The content or substance of a discipline and the process by which it is learned are inseparable.					
6. A concerted effort by reading and English teachers should be sufficient to provide secondary school students with the necessary reading skills.					
7. Students should be grouped homogeneously on the basis of reading achievement in the secondary school.					
8. Teachers of subject matter must be experts in reading if they are to help their students with their reading needs.					
9. Every teacher should be held responsible for teaching the reading skills essential to his course objectives and materials.					
10. The opportunity to succeed in subject matter assignments should in effect be guaranteed.					

APPENDIX D

Vaughan's Scale to Measure Attitudes Toward
Teaching Reading in Content Classrooms

Directions: In the blank by each statement, mark the number of your response.

7 = Strongly Agree
6 = Agree
5 = Tend to Agree
4 = Neutral
3 = Tend to Disagree
2 = Disagree
1 = Strongly Disagree

_____ 1. A content area teacher is obliged to help students improve their reading ability.

_____ 2. Technical vocabulary should be introduced to students in content classes before they meet those terms in a reading passage.

_____ 3. The primary responsibility of a content teacher should be to impart subject matter knowledge.

_____ 4. Few students can learn all they need to know about how to read in six years of schooling.

_____ 5. The sole responsibility for teaching students how to study should lie with reading teachers.

_____ 6. Knowing how to teach reading in content areas should be required for secondary teaching certification.

_____ 7. Only English teachers should be responsible for teaching reading in secondary schools.

_____ 8. A teacher who wants to improve students' interest in reading should show them that he or she likes to read.

_____ 9. Content teachers should teach content and leave reading instruction to reading teachers.

_____ 10. A content area teacher should be responsible for helping students think on an interpretive level as well as a literal level when they read.

_____ 11. Content area teachers should feel a greater responsibility to the content they teach than to any reading instruction they may be able to provide.

_____ 12. Content area teachers should help students learn to set purposes for reading.

_____ 13. Every content area teacher should teach students how to read material in his or her content specialty.

_____ 14. Reading instruction in secondary schools is a waste of time.

_____ 15. Content area teachers should be familiar with theoretical concepts of the reading process.

APPENDIX E

LESSON FRAMEWORK CHECKLIST

1. Motivating Activity
2. Review and Background
3. Purpose Setting
4. Vocabulary
5. Study Guide
6. Small Group Activity
7. Evaluation

Suggested Criteria for Judging a Study Guide

The study guide:

- introduces and helps students define the essential vocabulary words
- reflects an awareness of the levels of comprehension
  - literal
  - interpretive
  - applied
- contains a variety of exercises, focused on both content and process:
  - fill-in
  - matching
  - multiple choice
  - short-answer
  - short essay
  - categorizing
  - sequencing
  - listing
  - summarizing
  - other
- requires students to use the text to justify their answers
- leads students to an understanding of the major concepts

APPENDIX F

Improving Reading Comprehension Through the Content Approach

Teacher Implementation Report

Name _____ Week Ending _____

Please indicate for every class you teach the Percent of time during which you used the Content Approach.

Class	100%	_____	75%	_____	50%	_____	25%	_____	0% _____
Class	100%	_____	75%	_____	50%	_____	25%	_____	0% _____
Class	100%	_____	75%	_____	50%	_____	25%	_____	0% _____
Class	100%	_____	75%	_____	50%	_____	25%	_____	0% _____
Class	100%	_____	75%	_____	50%	_____	25%	_____	0% _____

Return in Pony

IMPROVING READING COMPREHENSION THROUGH THE CONTENT APPROACH - CLASSROOM OBSERVATION RECORD

TEACHER _____ SCHOOL _____ SUBJECT _____

DATE _____ BELL (PERIOD) _____ OBSERVER _____

DIRECTIONS: Put a check in the blank to the left to indicate occurrence. Note approximate number of minutes observed in the blank to the right.

TEACHER INSTRUCTIONAL ROLE

		Minutes
_____	Lecturer	_____
_____	Questioner	_____
_____	Discussion Leader	_____
_____	Discussion Participant	_____
_____	Tutor	_____
_____	Facilitator	_____
_____	Motivator	_____
_____	Other (describe)	_____
	_____	

TEACHER WORKS WITH:

		Minutes
_____	Total Class	_____
_____	One Student	_____
_____	Small Group of Students	_____

STUDENTS WORK:

_____	In Total Class	_____
_____	As individuals	_____
_____	In Small Groups	_____

STUDENT ROLES

		Minutes
_____	Listener	_____
_____	Questioner	_____
_____	Discussion Leader	_____
_____	Discussion Participant	_____
_____	Tutor	_____
_____	Facilitator	_____
_____	Motivator	_____
_____	Other (describe)	_____
	_____	

STUDENT ACTIVITIES

_____	Listening	_____
_____	Speaking	_____
_____	Writing	_____
_____	Reading	_____
_____	Other (describe)	_____
	_____	

CLASSROOM ACTIVITIES

_____	Review and Background	_____
_____	Purpose Setting	_____
_____	Vocabulary Work	_____
_____	Study Guide	_____
_____	Small Group Discussion	_____
_____	Summarizing Activity	_____
_____	Independently Chosen Activity	_____
_____	Evaluation Activity	_____
_____	Other (describe)	_____
	_____	

APPENDIX G

COMMENTS: _____

_____

_____

_____

APPENDIX H

Trainer's Name _____

School _____

Subject Area _____

IMPROVING READING COMPREHENSION THROUGH THE CONTENT APPROACH

TRAINER'S REPORT ON TRAINER'S GUIDE,
TRANSPARENCIES, AND SOUND-SLIDE SHOW

PART I. TRAINER'S GUIDE

DIRECTIONS: Please comment on the strengths and weaknesses of each of the seven sections of the Trainer's Guide. Be as specific as possible. Your comments will be of tremendous help in the revision of the Trainer's Guide.

Packet 1:

Packet 2:

Packet 3:

Packet 4:

Packet 5:

Packet 6:

Packet 7:

PART II. TRANSPARENCIES

DIRECTIONS: Please comment on the appearance and usefulness of the transparencies during the inservice training.

(Suggested considerations: Were there too many or too few transparencies? Are other transparencies needed? Are the transparencies clearly identified and easy to use? Were the transparencies a useful part of the inservice training? Were particular transparencies particularly useful and, if so, which ones?)

PART II. TRANSPARENCIES (CONTINUED)

PART III. SOUND-SLIDE SHOW

DIRECTIONS: Please comment on the strengths and weaknesses of the sound-slide show.

(Suggested considerations: Is the show attractive? Did the show seem to hold the interest of the participants? Did the show seem to be an effective opening workshop activity? Does the show clearly explain the project? In what ways should the show be changed? Does the show seem appropriate for secondary teachers?)

APPENDIX I

EVALUATION

OF INSERVICE MATERIALS

FOR ESEA TITLE IV-C PROJECT

IMPROVING READING COMPREHENSION THROUGH THE CONTENT APPROACH

Submitted by:

Peter L. Sanders
Professor
Wayne State University

I. INTRODUCTORY

The in-service materials for improved reading comprehension through the content approach developed by the Cincinnati Public Schools during the 1976-77 school year and revised and supplemented during the 1977-78 school year are a sound and professional accomplishment, pragmatic in approach, yet reflecting current authoritative opinion.

The numberous suggestions of the initial Evaluation have been incorporated in the present materials. An initially impressive program has over the past year become an outstanding one.

The materials continue to be noteworthy for their graphics, their packaging, and their tone. Except for minor editing needs, the job has been most satisfactorily done.

II. INSTRUCTIONAL MEDIA

A. Sound-slide Presentations

The introductory sound-slide presentation and the sound-slide presentation on small-group discussion are effectively done. The major points in each are pertinent; the pacing of each is appropriate. The warm and humorous tone of both presentations is especially noteworthy, as is the choice and the quality of the visuals.

The sound (perhaps a function of the particular cassettes and/or the recorder used) is at times lacking in clarity. The tapes would undoubtedly be improved if more enthusiasm or conviction were generated by the persons speaking the various roles.

B. Transparencies

The quality of the transparencies is excellent. Their function and timing within the program are well-conceived.

III. TRAINING MANUAL

A. General Considerations

The Training Manual is an impressive accomplishment. The style, tone, and effective organization of the original manual have been retained, while major improvements reflecting the recommendations of the 1976-1977 evaluation have been made.

B. Packet 1: Introduction

A clear and comprehensive examination of the rationale for reading in the content areas. Thoughtful, detailed, and persuasive.

C. Packet 2: Content Analysis

A clear, and for the most part effective presentation of a complex topic. Detailed and encouraging.

D. Packet 3: Process Analysis

A direct statement and a clear improvement of the Process Analysis packet of the previous year.

E. Packet 4: Writing Study Guides

A clear and thoughtful presentation. Complete and effective.

F. Packet 5: Vocabulary Development

A sometimes confusing packet that is of great importance and that has considerable though unrealized potential. There is a need for more careful elaboration and definition.

G. Packet 6: Small Group Discussions

An impressive and appropriate emphasis. The packet is well-organized and well written.

H. Packet 7: Evaluation

A major improvement over the materials of last year. Thorough and provocative, but imminently acceptable because of the practicability of the suggestions. The major remaining needs are to more clearly distinguish between formative and summative procedures and the relationship of each to the determination of grades and to elaborate on the business of "translating" the findings of the procedures suggested into grades.

IV. SAMPLE TEACHER-WRITTEN MATERIALS

The sample materials retain the strengths of the materials of the previous year, while eliminating the most notable deficiencies. Clarification of the Training Manual has allowed for greater consistency between Teacher-Written Materials and Training Manual than was possible previously. The present collection of guides is comprehensive and noteworthy for the adherence of individual guides to the definition of the Manual.

A. General Considerations

1. A need, though perhaps not major, for greater consistency across the four subject areas regarding the contents of the introductory essays. Beck's essay (Mathematics) is notably different in that it does not provide a nearly formal review of pertinent packets of the Training Manual.

2. A continuing need for better indication of where a particular guide or lesson framework ends and the next begins and of which is a guide and which a lesson framework.

B. Science Materials

Some excellent examples (but see Point A.2., above). The introductory article is comprehensive, though perhaps unnecessarily detailed in reviewing procedures defined by the Training Manual. An effective job, nevertheless.

C. Mathematics Materials

Generally excellent; a marked improvement over the math materials of the previous year. The introductory article by Richard Beck is interesting and informative. The numerous examples (though there is continuing confusion as to where one ends and the next begins) are varied in both content and type and are a logical reflection of pertinent sections of the Training Manual. The decision to omit grade-level designators was astute.

D. English Materials

An interesting and much improved item. Major problems noted in the previous year's evaluation have been accounted for. The guides and lesson frameworks suggest the variety possible.

E. Social Studies Materials

A solid collection of materials with perhaps the weakest of the four introductory articles. A substantial accomplishment, nevertheless.

V. TRAINER'S GUIDE

The present Trainer's Guide reflects an excellent grasp of the recommendations of the 1976-1977 evaluation. The Guide is realistic and encouraging in tone; the recommended practices, it is apparent, are based on actual experience.

Especially noteworthy are pp. T.1.04 - T.1.07 and the persistent yet gentle reminders throughout the Guide that the inservice sessions should serve as a model of what the participants might themselves do in their own classrooms.

"Materials Needed" is a useful and effective graphic.

THE UNIVERSITY OF ARIZONA
TUCSON, ARIZONA 85721

COLLEGE OF EDUCATION
DEPARTMENT OF READING

September 15, 1977

Ms. Mary H. Rueve
Project Evaluator
Education Center
Cincinnati Public Schools
230 East Ninth Street
Cincinnati, Ohio 45202

Dear Ms. Rueve,

I'm glad to know that you're planning to use my scale in your evaluation package, and I'll be happy to assist in any way that I can.

As for your establishing concurrent validity, let me offer several observations. If concurrent validity had been possible by comparing my scale to one designed by someone else, there would have been no need for my scale. Because no other validated scale could be identified which sought to measure the construct of attitude toward teaching reading in content areas, no concurrent validity, per se, can be determined. Convergent validity, closely related to the value of concurrent validity, has been established and is discussed in a paper to be published in the Fall, 1977 issue of Journal of Reading Behavior. A pre-publication draft of that paper is enclosed.

Construct validity for the scale has also been examined. To clarify a point, however, construct validity is never fully established for any device because "...so many diverse techniques are required to examine diverse hypotheses and counter hypotheses. Construct validation requires the integration of many studies" (Cronbach, 1971, p. 464). (For this citation see the enclosed paper.) Thus, evidence of the construct validity has been examined and determined. What you need to do further, I do not, at this point, know. (Again, see the enclosed paper for this evidence.)

I hope this helps. In any event, let me know if I can be of futher assistance. In addition, I'd appreciate your providing me with as much of the raw data you obtain as you can send me as it will help with re-examination of norms and replication studies we are presently designing.

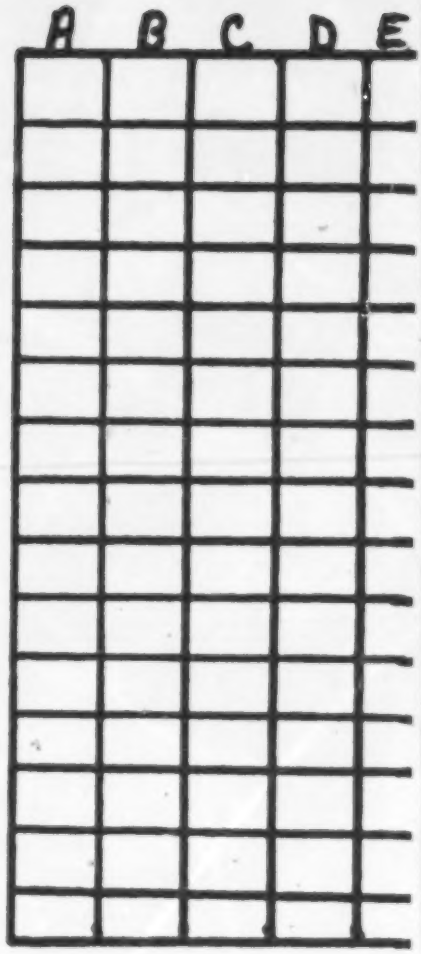
Sincerely,

Joseph L. Vaughan, Jr., Ed.D.
Assistant Professor

JLV:lab
Enclosure

APPENDIX J
Student Attitude Scale

A means "I strongly agree"
B means "I agree"
C means "I'm undecided"
D means "I disagree"
E means "I strongly disagree"



1. Teachers expect their students to fail.
2. Teachers respect their students' opinions
3. Teachers don't understand what their students need.
4. Teachers are good listeners.
5. Grades show how much a student has really learned.
6. Students' answers are usually wrong.
7. Teachers encourage students to share ideas with each other.
8. Students must accept their teachers' opinions.
9. Teachers help their students to succeed.
10. Class discussions are a waste of time.
11. It is okay to be wrong.
12. Most tests are unfair.
13. Teachers want to know what their students believe.
14. It is difficult to succeed in school.
15. Teachers encourage students to think for themselves.

_____ Male

_____ Female

_____ Grade